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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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COUNTRY Poland

SUBJECT Briefing Sheet for Potential Purchasers of Polish Commercial Aircraft

REPORT

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[redacted] SOURCE GRADINGS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

[redacted]

1. PZL-101 monoplane, with 500-kg chemical container and spray equipment, for agricultural or forestry dusting and spraying. The G-2(universal model) can be converted, by removing the container, into a 4-passenger or freight transport.

2. TS-8 "Bies" - for training military and civilian pilots.

3. PZL-102 "Kcs" two-seater plane.

4. "Kania 2" strut-type high-wing monoplane for towing gliders.

5. "Jaskolka" class single-seat glider.

6. "Bocian" class two-seater glider.

7. SM-1 helicopter, single engine, single rotor, for pilot and 2 or 3 passengers. Quoted price: about $60,000 (U.S.)

8. SM-1Z, helicopter adapted for agricultural dusting and spraying, with 440 kg capacity. This model can be converted into a passenger transport by removal of special equipment.

9. S-2, five-person (pilot plus four passengers; two pilots plus three passengers; pilot, medical officer, stretcher for one patient) helicopter, with provisions for mounting rescue operation equipment. 50X1-HUM

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A chart, listing the technical data of the TS-8, PZL-102, PZL-101 (G-1), and S-4 aircraft, is included.

[redacted] Comment. Although this information is essentially overt, it is also information which may not be generally available. It is forwarded as of possible use as background information. 50X1-HUM

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AIRPLANES AND HELICOPTERS

Design and production of airplanes has its own long standing tradition. There was a time when Polish fighters /PZL-I-24/ and bombers /PZL-37, "Łoś"/ have been considered as the best in their class and Polish sport airplanes have been unquestionably victorious in international flying competitions i.e. two Polish victories in the Challenge de Tourisme International in 1932 and 1934.

After complete destruction of the Polish aircraft industry during the last war, this industry has been rebuilt. At present the "Polskie Zakłady Lotnicze" Airplane Works manufacture airplanes for military and civil purposes to meet the home needs and for export.

The new type PZL-101 airplane has been designed on the basis of the multipurpose airplane manufactured in large series.

This airplane due to mounting on it of a big container for chemicals, made of stainless steel, of 500 kg capacity and due to suitable equipment has been adapted for dusting and spraying the insecticide chemicals or for distribution the fertilisers. The capacity of the PZL-101 airplane containers for chemicals are much bigger than those of the aircrafts in the same class.

The airplane of this type is considered as an ideal way of fighting the field, orchard and forest pests and as valuable aid in agriculture.

Tests which have been carried out in the Polish agriculture and forestry showed high grade of usefulness and high qualities of the PZL-101 airplane. Spraying the 25 hectars of a forest along the 80 m vide zone, what requires consumption of all 500 kg charge of chemicals,

takes only 1.5 minutes and the airplane can retunr for new charging. Relatively high cruising speed increases the operational ability of this airplane.

The PZL-101 airplane is adapted for operation from small landing grounds. Its wings provided with fixed slots and landing flaps enable to shorten the take-off and landing. Due to the application of a small-angle of wing sweep-back and wing tip plates extremely good flying properties in low speed flights at acute angles of attack were achieved. The airplane retains positive stability and manoevrability even in flight conditions bordering the stalling.

The nine-cylinder, radial AI-14R engine of 260 h.p. output, ensures considerable reserve of power enabling the use of the airplane in hilly and mountainous terrains also. The engine is provided with a starter fed with compressed air from the tank accomodated in the cabine. The propeller is of stable or variable pitching type /the W-530-D11 type/.

The PZL-101 airplane is to be manufactured in two versions; G1 - special, general purpose and G-2 - universal. In the G-2 version there is a possibility of dismounting the container for chemicals from the airplane and converting it into the passenger airplane /4 persons and full radio equipment/ or into the goods transport /400 kg of goods and radio equipment/.

The TS-8 "Bies" airplane is designed for training military and civilian pilots and for practice flights.

It is worth while to remind that on the TS-8 "Bies" airplane in 1956 and 1957 international records has been established i.e.

- altitude record, class C-1C - 7084 m
- length of flight record

in circular flight, class C-1d - 2384.3 km

- flight speed record in circular flight, class C10 - 320 km/h.

The PZL-102 "Kos" two-seater, touring airplane distinguishes itself from among airplanes of the same class by its complete metal construction increasing considerably the crew safety and on the other hand increasing the period of airplane life what consequently diminishes the costs of one-hour flight.

An interesting type of airplane designed for towing the gliders is the strut-type high-wing monoplane "Kania 2". This airplane was demonstrated during the last World Glider Championship in Leszno /Poland/ and was met with a lively interest and appraisement of experts.

To tow by this airplane the single-seater performance glider of class "Jaskółka" up to the altitude of 1200 m takes only 6,2 minutes and to tow the two-seater of class "Bocian" - 8 minutes. High ceiling permits to attack the standing waves.

The liaison helicopter SM-1 is a single-engine, single rotor aircraft designed in the classical Sikorski's construction with the tail rotor. This aircraft is adapted for a pilot and 2-3 passengers. It is powered by seven-cylinder, radial, air-cooled, Al-26w engine of 575 H.P. take-off power.

The front wheel of the helicopter three wheel undercarriage is provided with air-and oil shock absorber. The framework supporting the central part of the fuselage is made of welded steel tubes. The framework is covered with duralumin sheets which give the fuselage an aerodynamic shape. In the front part of the fuselage framework is set an abundantly glazed cockpit.

The agricultural helicopter SM-1Z, is provided with special equipment for dusting and spraying chemicals. The weight of one charge of chemicals amounts to 440 kg. This charge is sufficient to cover by dusting or spraying the area of hectars of cropland.

The agricultural equipment can be easily dismounted and the SM-1Z helicopter converted into a liaison helicopter for passenger transport.

The five-seater helicopter S-2 represents the development of SM-1 helicopter design fulfilled to obtain better economical indexas and higher grade of universality. On the helicopter board there is plenty of room for a pilot and four passengers, for two pilots and three passengers or for a pilot, a medical officer and for one sick on strecher.

This helicopter can be provided with a hoisting equipment for rescue operation executed from the air.

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Helicopter	SM-1	S-2
Producer	Poland	
Number of seats	1+3	1+4
Useful load in kg	465	625
Cruising speed in km/h	140	135
Rate of climb. max. /in m/sec./	6.5	4.5
Hovering ceiling, in m	4000	2700
Range, in km	386	450

Comparing the data given in this table it is easily to conclude that the only helicopters which are able to fly with a full load on the altitude higher then 3000 m are Polish ones.

The costs of exploitation of the SM-1 helicopters are lower than those of exploitation of foreign helicopters in the same class. Taking into consideration: price of the SM-1 helicopter which in USA dollars amounts approximately to 60.000 dollars, guaranty for 500 hours of the engine and of the helicopter life until overhaul, costs of overhauls amounting to 20 per cent of the price, insurance, crew and personnel salaries and costs of fuel and lubricants - the cost of the helicopter SM-1 one-hour flight is estimated below 100 dollars, whilst the costs of exploitation of [redacted] helicopter amounts to approximately 155 dollar per one hour of flight /W. Just - "Einführung in die Hubschraubertechnik" - Stuttgart 1956/.

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The PZL helicopters are very widely tested and absolutely safe aircrafts.

The SM-1 type, as a basic one, is in service of the Polish and other European countries air forces. The user's estimations concerning this aircraft are positive.

The SM-1 helicopter has been positively appraised also by foreign pilots who became acquainted with it during the air shows performed in Paris, in Leipzig and in Poland.

Technical data of airplanes

	Type	TS-8 "Bies"	PZL-102 "Kos"	PZL-101 /G-1/	S-4 "Kania" 2
	destination	training-practice	touring, light	agricultural	towing
	crew	2	2	1	2
	engine	WN-3, 320 H.P.	WN-1, 65 H.P.	AI-14R, 260 H.P.	K-110, 125 H.P.
dimensions-weights	span, in m	10.5	8.49	12.60	12.13
	length, in m	8.55	6.38	9.00	8.28
	lifting surface, in m^2	19.1	11.02	23.86	22.5
	weight empty, in kg	1070	350	954	582
	weight loaded, in kg total	1550	580	1610	902
performance	maximum speed, in km/h	310	170	180	240
	cruising speed, in km/h	270	150	165	-
	minimum speed, in km/h	95	72	76	80
	rate of climb, in m/sec.	6.8	2.5	-	4.5
	ceiling, in m	6000	5600	3200	5100
	range, in km	675	500	500	900